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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/710,790

08/03/2004

David R. Hall

66.0029

4789

38046

7590

04/19/2006

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EXAMINER

WONG, ALBERT KANG

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/710,790	HALL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Albert K. Wong	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

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1. This Office action is in response to the application filed August 3, 2004. Claims 1-20 are pending. This application claims the benefit of provisional application 60/481,225. Benefit has not been granted because it appears that the invention pertains to an infusion system that bears no relation to a drill string environment. If applicant disagrees, he is asked to provide support for each claim within the provisional application.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shawhan (4,298,970) in view of Laborde (6,816,082).

Regarding claim 1, Shawhan teaches the claimed bottom-hole node as item 22. The top-hole node is shown as item 32 with the repeaters being the intermediate nodes. The communication link is the transducers and pipe that carry the signals from the nodes. The

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purpose of the invention is a synchronizing system to communicate between the nodes, and thus, at least two nodes are synchronized. Shawhan does not teach the use of data packets, but teaches the transmission of digital signals. Laborde teaches a communication system with nodes and sensors. Col. 2 teaches the use of various protocols for communication. These protocols involve the use of data packets. It would have been obvious to combine the two references because they pertain to the same field of data transmission within a borehole using nodes. While Laborde is primarily concerned with monitoring production, it teaches that the signal may be transmitted by coiled tubing that is synonymous with a drill string. It would have been obvious to use the packet communication in Laborde with the system in Shawhan to create a system having the advantage of packet communication, i.e. error correction or addressability.

Regarding claims 2-3 the equivalent of a personal computer is shown as item 34 of Shawhan. Although a computer is not specifically mentioned, it is conventionally used because it performs the same function.

Regarding claim 4, on sensor described in Shawhan is a drill bit position sensor which is typically an inclinometer.

Regarding claim 5, see Figure 1 of Shawhan.

Regarding claim 6, a repeater performs the task of amplification.

Regarding claim 7, it would have been obvious to include a housing to protect the node and to interface with the drill string for signal conduction.

Regarding claim 8, the intermediate node receives signals from the sensor, and thus, gathers the data.

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Regarding claim 9-10, see col. 5, lines 55-60 of Laborde. The use of an address provides the advantage activating one node where multiple nodes may receive the signal. This creates a system with redundancy.

Regarding claim 11, see claim 4.

Regarding claims 12-20, these claims are the method equivalent of the apparatus claims above. Since the apparatus have been shown to be obvious, the method of using the apparatus in a conventional way would similarly be obvious.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

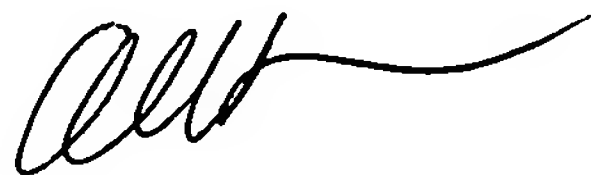
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Albert K. Wong  
April 14, 2006

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A handwritten signature in black ink, appearing to read 'Albert K. Wong', with a long horizontal flourish extending to the right.

**ALBERT K. WONG**  
**PRIMARY EXAMINER**